CLAIMS

1. A Moraxella catarrhalis genomic library comprising the combination of nucleic acid molecules or their complements shown in the Sequence Listing as SEQ ID NOs:1-41.

2. A method of identifying diagnostic compositions comprising comparison of the library of claim 1 to nucleic acid molecules of other organisms.

3. A method of identifying diagnostic compositions, the method comprising:

a) using the method of claim 2, and

b) computer databases to make the comparison.

4. A method of identifying therapeutic compositions comprising comparison of the library of claim 1 to nucleic acid molecules of other organisms.

5. A method of identifying therapeutic compositions, the method comprising:

a) using the method of claim 4, and

b) computer databases to make the comparison.

6. A purified M. catarrhalis nucleic acid molecule or a fragment thereof comprising a nucleic acid sequence on a contiguous sequence contained within the library of claim 1.

7. An expression vector containing the nucleic acid molecule of claim 6.

8. A host cell containing the expression vector of claim 7.

9. A method for producing an M. catarrhalis protein, the method comprising:

a) culturing the host cell of claim 8 under conditions for expression of the M. catarrhalis protein; and

b) recovering the protein from cell culture.

10. A purified M. catarrhalis protein or a portion thereof comprising a protein encoded by a nucleic acid molecule on a contiguous sequence contained within the M. catarrhalis genomic library of claim 1.

11. A method for using an M. catarrhalis protein to screen a plurality of molecules or compounds to identify at least one ligand which specifically binds the protein, the method comprising:

a) combining the protein of claim 10 with the library of molecules or compounds under conditions to allow specific binding, and

b) detecting specific binding, thereby identifying a ligand which specifically binds the protein.

12. The method of claim 11 wherein the molecules or compounds are selected from aptamers, DNA molecules, RNA molecules, peptide nucleic acids, peptides, mimetics, proteins, agonists, antagonists, antibodies, immunoglobulins, inhibitors, pharmaceutical agents, and drug compounds.

13. A method of using an M. catarrhalis protein to purify a ligand from a sample, the method comprising:

a) combining the protein of claim 10 with the sample under conditions to allow specific binding,

b) detecting specific binding between the protein and a ligand,

c) recovering the bound protein, and

d) separating the protein from the ligand, thereby obtaining purified ligand.

14. A method of using an M. catarrhalis nucleic acid molecule to screen a plurality of molecules or compounds to identify at least one ligand which specifically binds the nucleic acid molecule, the method comprising:

a) combining the nucleic acid molecule of claim 6 with molecules or compounds under conditions to allow specific binding, and

b) detecting specific binding, thereby identifying a ligand which specifically binds the nucleic acid molecule.

15. The method of claim 14 wherein the library is selected from aptamers, DNA molecules, RNA molecules, peptide nucleic acids, peptides, transcription factors, enhancers, repressors and regulatory proteins.

16. A probe comprising the nucleic acid molecule of claim 6.

17. A method for detecting an M. catarrhalis nucleic acid molecule in a sample, the method comprising the steps of:

a) hybridizing the probe of claim 16 to at least one nucleic acid in the sample, thereby forming a hybridization complex; and

b) detecting the hybridization complex, wherein the presence of the hybridization complex indicates the presence of the M. catarrhalis nucleic acid molecule in the sample.

18. The method of claim 17 further comprising amplifying the nucleic acids of the sample prior to hybridization.